

CLAIMS

What is claimed:

1. A method for performing on a computer system one or more form independent application program operations on at least one IMS resource comprising:

- 5 (a) locating an actual PCB associated with said at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and
- (b) utilizing said actual PCB to perform said one or more form independent application program operations on said at least one IMS resource.

10 2. The method of claim 1 wherein said IMS resource is a database.

3. The method of claim 2 wherein said database is of a type selected from the group consisting of DEDB, HDAM and HIDAM.

15 4. The method of claim 3 wherein said application program operations include unloading said database.

5. The method of claim 3 wherein said application program operations include loading said database.

6. The method of claim 1 wherein said IMS construct form depends from the choice of programming language used to generate a PSB.

7. The method of claim 6 wherein said IMS construct form depends from the order of PCBs associated with said PSB.

8. The method of claim 1 wherein said application program operations are invoked from an application program executing in an IMS region selected from the group consisting of BMP, DLI, DBB, MPP and IFP.

9. The method of claim 8 wherein step (a) of claim 1 comprises locating an I/O PCB.

10. The method of claim 8 wherein step (a) of claim 1 comprises locating a database PCB.

11. The method of claim 6 wherein said PSB is associated with a language selected from the group consisting of COBOL, Assembly Language, PL/I, PASCAL and C.

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12. The method of claim 7 wherein said IMS construct form additionally depends from the quantity of PCBs associated with said PSB.

13. The method of claim 9 wherein step (b) of claim 1 comprises utilizing said I/O PCB to perform checkpoint processing.

14. The method of claim 1 wherein step (a) comprises the steps of:

(a1) locating a first candidate PCB,

(a2) determining if said first candidate PCB is said actual PCB, and

(a3) if said first candidate PCB is not said actual PCB, utilizing said first candidate PCB as a pointer to locate said actual PCB.

15. The method of claim 14 wherein said determining step comprises verifying that a name field of said first candidate PCB consists of only printable characters.

16. The method of claim 14 wherein said locating step comprises the steps of:

(a1.1) utilizing a register 13 to access a program save area,

(a1.2) utilizing an HSA pointer from said program save area to access a calling

program's save area,

(a1.3) utilizing a saved register 1 from said calling program's save area to access
a parameter list, and

(a1.4) utilizing a parameter list entry from said parameter list to access said first
candidate PCB.

17. The method of claim 16 wherein the steps of claim 14 further comprise:

(a4) comparing a NAME field of said actual PCB with the name of said IMS
resource to determine if said actual PCB is associated with said IMS resource,

(a5) checking a high order bit of said parameter list entry if said actual PCB is not
associated with said IMS resource, and

(a6) obtaining a second candidate PCB by utilizing a next sequential parameter
list entry from said parameter list and repeating steps (a2) through (a6) substituting said
second candidate PCB for said first candidate PCB if said high order bit is not "1".

18. The method of claim 17 wherein step (a5) further comprises generating an
error condition if said high order bit is "1".

19. A method for performing an application program operation on at least one
IMS database comprising:

- (a) ensuring the existence of IMS constructs representing said at least one IMS
5 database without regard for construct form characteristics, and
- (b) executing a form independent application program for performing said
application program operation on said IMS database.

20. A computer system for performing one or more form independent application
10 program operations on at least one IMS resource comprising:

- (a) a computer,
- (b) computer program first instructions executing on said computer for locating
an actual PCB associated with said at least one IMS resource exclusive of predetermined
knowledge pertaining to an IMS construct form, and
- 15 (c) computer program second instructions executing on said computer for
performing said one or more form independent application program operations on said at
least one IMS resource utilizing said actual PCB.

21. The system of claim 20 wherein said IMS resource is a database.

22. The system of claim 21 wherein said database is of the type HDAM.

23. The system of claim 21 wherein said application program operations include unloading said database.

5 24. The system of claim 21 wherein said application program operations include loading said database.

25. The system of claim 20 wherein said IMS construct form depends from the choice of programming language used to generate a PSB.

26. The system of claim 25 wherein said IMS construct form depends from the order of PCBs associated with said PSB.

27. The system of claim 20 wherein said application program operations are
15 invoked from an application program executing in an IMS BMP region.

28. The system of claim 27 wherein said computer program first instructions locate an I/O PCB.

20 29. The system of claim 27 wherein said computer program first instructions locate a database PCB.

30. The system of claim 25 wherein said PSB is associated with COBOL.

31. The system of claim 26 wherein said IMS construct form additionally
5 depends from the quantity of PCBs associated with said PSB.

32. The system of claim 28 wherein said computer program second instructions
use said I/O PCB to perform message queue processing.

33. The system of claim 20 wherein said computer program first instructions
perform a method for locating said actual PCB, said method comprising:

(a1) locating a first candidate PCB,

(a2) determining if said first candidate PCB is said actual PCB, and

(a3) locating said actual PCB utilizing said first candidate PCB if said first
15 candidate PCB is not said actual PCB.

34. The system of claim 33 wherein (a2) comprises verifying that a name field of
said first candidate PCB consists of only printable characters.

35. The system of claim 33 wherein (a1) comprises:

(a1.1) locating a program save area,

(a1.2) locating a calling program's save area utilizing said program save area,

(a1.3) locating a parameter list utilizing said calling program's save area, and

(a1.4) locating said first candidate PCB utilizing said parameter list.

36. The system of claim 33 further comprising:

(a4) determining if said actual PCB is associated with said IMS resource,

(a5) checking for the existence of a second candidate PCB if said actual PCB is not associated with said IMS resource, and

(a6) repeating (a2) through (a6) substituting said second candidate PCB for said first candidate PCB if said second candidate PCB exists.

37. The system of claim 36 wherein (a5) further comprises generating an error condition if said second candidate PCB does not exist.

38. An article of manufacture for use in a computer system tangibly embodying a program of instructions executable by the computer system to perform method steps for performing one or more form independent application program operations on at least one

5 IMS resource, the method comprising the following steps:

(a) locating an actual PCB associated with the at least one IMS resource exclusive of predetermined knowledge pertaining to an IMS construct form, and

(b) utilizing the actual PCB to perform the one or more form independent application program operations on the at least one IMS resource.

10 39. The article of manufacture of claim 38 wherein the IMS resource is a database.

15 40. The article of manufacture of claim 38 wherein the IMS construct form depends from a characteristic selected from the group consisting of PSB programming language, PCB order, and PCB quantity.

41. The article of manufacture of claim 38 wherein step (a) comprises locating an I/O PCB.

42. The article of manufacture of claim 41 wherein step (b) of claim 38 comprises utilizing the I/O PCB to perform checkpoint processing.

43. The article of manufacture of claim 38 wherein step (a) comprises the steps

5 of:

(a1) accessing a first candidate PCB,

(a2) evaluating whether the first candidate PCB is the actual PCB, and

(a3) utilizing information from the first candidate PCB to access the actual PCB

if the first candidate PCB is not the actual PCB,.

44. The article of manufacture of claim 43 wherein the evaluation step (a2) comprises determining if a name field of the first candidate PCB consists of only printable characters.

45. The article of manufacture of claim 43 wherein the accessing step (a1) comprises the steps of:

(a1.1) utilizing a memory address from a register 13 to access a program save

area,

(a1.2) utilizing a memory address from the program save area to access a calling program's save area,

(a1.3) utilizing a memory address from the calling program's save area to access a parameter list, and

(a1.4) utilizing a memory address from the parameter list to access the first candidate PCB.

46. The article of manufacture of claim 43 further comprising:

(a4) determining if the actual PCB is associated with the IMS resource,

(a5) checking for the existence of a second candidate PCB if the actual PCB is not associated with the IMS resource,, and

(a6) repeating steps (a2) through (a6) with substitution of the second candidate PCB for the first candidate PCB if the second candidate PCB exists.

47. The article of manufacture of claim 46 wherein step (a5) further comprises generating an error condition if the second candidate PCB does not exist.

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(a1.5) determining that the language environment is PASCAL if a parameter list entry in the first entry location of the parameter list is zero.